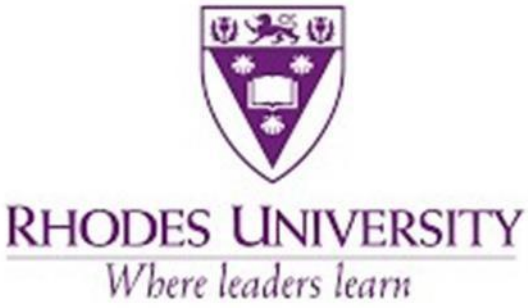

The relationship Between Academic Resilience and Psychological Distress Among Undergraduate Students at Rhodes University

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Abstract

This study investigated the association between academic resilience and psychological distress among undergraduate students at Rhodes University, South Africa. The purpose was to determine if these two constructs are linked and amid the youth mental health crisis in south African context it is relevant to address. Participants were 46 undergraduate students from a population of 6,336, primarily aged 18-24. Data were collected via an online Google Form survey utilising the Academic Resilience Scale (ARS-30) to assess academic resilience and the Clinical Outcome in Routine Evaluation-Outcome Measure (CORE-OM) to evaluate psychological distress across four domains. A demographic questionnaire was also administered. Data were analysed using Pearson correlation and Welch's one-way ANOVA in Jamovi software. The sample's mean CORE-OM score indicated mild psychological distress, while the mean ARS-30 score indicated a generally high academic resilience. A Pearson correlation between total CORE-OM and ARS-30 scores revealed a weak, negative correlation, which was not statistically significant. Welch's one-way ANOVA indicated no significant differences in academic resilience, and the non-parametric alternative used were Kruskal-Wallis one-way ANOVA and the Wilcoxon signed-rank test. While for psychological distress across academic years of study: descriptive statistics showed that first-year students reported the highest mean distress, although this difference was not statistically significant. The findings did not fully support a statistically significant negative relationship between overall academic resilience and psychological distress in this sample. Academic resilience and psychological distress levels did not significantly vary across academic years. The study highlights the need for holistic mental health support tailored to students' diverse needs across all academic levels. Limitations include the small sample size, low response rate, reliance on self-report measures, and the potential need for culturally adapted instruments in the South African context. Future research should aim for larger, more representative samples and consider longitudinal designs and culturally specific measures.

Keywords: academic resilience, psychological distress, undergraduate students, South Africa, CORE-OM, ARS-30

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1. Introduction and Literature Review

Acceptance into a higher learning institution is considered a milestone for many young adults, and the pressure to succeed can be stressful. In addition, the transition to higher education brings numerous challenges that can negatively influence academic success and, ultimately, a student's willingness to remain in their institution and academic course (Viljoen, 2015). In this context, Young and Campbell (2013) comment on the transition between secondary education and higher education:

> "[I]n addition to the usual developmental challenges associated with late adolescence and early adulthood, students must also navigate the transition from home to a less structured university life—often without their existing social support networks—while managing demanding academic workloads and frequently facing financial hardships." (Young & Campbell, 2013, p.359)

The focus on tertiary students is critical for several reasons outlined in the study's introduction. Transitioning into higher education often presents multiple challenges. Khumalo et al. (2024) emphasise that university life consistently exposes students to numerous stressors, making this period particularly demanding.

Resilience, in this context, emerges as a crucial factor in helping students overcome these adversities. As van Wyk et al. (2022) argue, fostering resilience is essential for students to effectively cope with academic stress and benefit from institutional support systems. A better understanding of how students manage academic challenges is therefore key to promoting both their psychological well-being and academic progression. Theron and Liebenberg (2015) contend that understanding resilience, particularly in majority-world settings, requires attention to the specific cultural and contextual realities that shape how resilience is developed and expressed. This culturally informed approach is necessary to probe ideas around socially just and contextually relevant interventions.

The South African context adds further significance to this research. The country's complex social and historical background may increase susceptibility to mental health issues among its youth. The research by Young and Campbell (2013) and Harriman et al. (2022) consistently

demonstrates significant racial disparities in psychological distress in post-apartheid South Africa, with Africans reporting a higher burden of distress. Furthermore, Harriman et al. (2022) emphasise that measures of stressors should be understood within the South African historical context. Despite the importance of academic resilience and psychological distress, research in South Africa remains limited, pointing to a notable gap in the literature. Rhodes University offers a unique context for exploring academic resilience and psychological distress, as it is one of the smallest public universities in South Africa, with an undergraduate population of approximately 6,400 to 6,550 students (Rhodes University, n.d.). This study aims to shed light on how undergraduate students at Rhodes experience and respond to the demands of university life.

This section provides an international and local overview of academic resilience and psychological distress among university students and includes the definitions. This study aimed to explore the correlation between two constructs, namely 1) Academic Resilience (AR) through the Academic Resilience Scale (ARS) and 2) psychological distress through the Clinical Outcomes in Routine Evaluation-Outcome Measure (CORE-OM).

1.1 Conceptualisation

1.1.1 Resilience

Resilience is a quality observed in certain individuals that enables them to succeed despite adversity (Cassidy, 2016). Smith and Emerson (2021) emphasise that resilience is relevant to all individuals who experience stress. In the context of this study, stress is particularly experienced by students navigating rigorous academic demands. In South Africa, resilience is a nuanced concept that reflects the country's complex history of adversity and adaptability. Insights from various academic fields, including sociology, economics and psychology, enhance our understanding of how individuals and their communities respond to challenges. According to van Rensburg et al. (2019), resilience is a complex construct that goes beyond individual characteristics, being deeply influenced by social interactions, cultural norms, and spiritual beliefs—supporting the value of a social-ecological perspective.

Resilience is frequently interpreted as a confluence of social, familial, personal and community elements that allow youth to flourish despite adversity. Theron et al. (2020)

conceptualises youth resilience as a dynamic process that leverages both personal strengths and social-ecological resources to maintain healthy functioning amid significant stressors. Although their research focuses on South African adolescents in structurally disadvantaged communities, it underscores that resilience is not merely an individual trait but is deeply embedded within the sociocultural and environmental context. Similarly, Mampane et al. (2021) highlight the importance of cultural values and community norms in shaping resilience processes. They note that traditional African values of interdependence and communal support play a crucial role in resilience-building, particularly in resource-constrained settings. Integrating the findings of Mampane et al. (2021) with those of Theron et al. (2020) provides a comprehensive understanding of youth resilience as a dynamic, contextually embedded process. Both approaches advocate for holistic interventions considering individual, relational, and structural factors in promoting resilience among South African youth. There is a growing interest in discussing resilience from an academic perspective.

1.1.2 Academic Resilience (AR)

According to Martin et al. (2022), academic resilience refers to academic success despite chronic socio-educational adversity. South Africa provides a compelling context for examining academic resilience, as there is a strong correlation between students' home backgrounds and academic performance, more so than in many other countries (Taylor & Yu, 2009). In addition, the correlation between socio-economic status (SES) and educational outcomes in South Africa refers to the strong relationship between a student's socio-economic background and their academic achievement (Taylor & Yu, 2009). This means that, generally, students from more affluent backgrounds tend to perform better academically when compared to those from disadvantaged backgrounds who often face greater challenges in achieving academic success.

According to Cassidy (2015), Academic Resilience is the capability to effectively manage challenges within an educational context. Cassidy (2015) supports the idea that resilience reduces the impact of academic stressors while strengthening protective factors like social support, optimism, and proactive coping strategies. Hofmeyr (2017, p. 2) emphasises that exploring academic resilience in South Africa could offer a valuable understanding of the elements that contribute to academic achievement in environments marked by underperformance and limited resources, both at home and in schools. Further, Rudd et al. (2021), academic resilience is

demonstrated by students who overcome challenges like low socioeconomic status while maintaining strong academic performance. Similarly, Truebridge (2016) described academic resilience as a dynamic process that encompasses both personal and external influences. In addition, Mampane (2023) notes that Academic Resilience is a dynamic process that, by definition, acknowledges the existence of multiple risk factors.

Existing literature indicates that universities can play a pivotal role in supporting first-year students by enhancing individual strengths (e.g., motivation, self-efficacy) and fostering supportive environments (e.g., social support, academic resources), thereby helping students thrive amidst the challenges of transitioning into higher education (Moosa & Aloka, 2023; Motsabi & Diale, 2020; Nel et al., 2016).). Social support from peers, family, and institutional networks has been shown to improve students' resilience and persistence (Motsabi & Diale, 2020), while structured interventions such as peer mentoring and life coaching can facilitate student adjustment and promote holistic wellness (McConney & Fourie-Malherbe, 2022; Mogashana & Basitere, 2021;). Additionally, proactive behaviors such as leveraging personal strengths and maintaining motivation are positively associated with academic success and overall well-being (Mostert & Du Toit, 2023).

1.1.3 Psychological Distress

South Africa's distinct social and historical background plays a potential role in raising the likelihood of mental health issues among its citizens (Harriman et al., 2021). According to the World Health Organization (WHO), mental health is defined as a state of mental well-being that enables people to cope with the stressors of life, realise their abilities, to learn well and work well, and to contribute to their community (WHO, 2021). Bantjes et al. (2023b) highlight that the mental well-being of students is a global issue. In addition, mental health trends among students in sub-Saharan Africa differ greatly from those in wealthy, industrialised Western countries (Bantjes et al., 2023b). This is mainly influenced by a range of socio-economic and political factors, which include poverty, inequality, the historical impact of colonisation, civil unrest, political instability, and gender disparities (Bantjes et al., 2019).

Harriman et al. (2021) discuss psychological distress as a key aspect of mental health that has attracted increasing scholarly attention in the South African context. Psychological distress is

further described as a unique, discomforting emotional state experienced by an individual in response to a specific stressor or demand that results in harm, either temporary or permanent, to the person (Ridner, 2004). Moreover, to experience psychological distress, an individual's perception of an inability to cope with a stressor needs to be present (Ridner, 2004). In the context of this study, students may experience psychological demands inside and outside the classroom, which may include financial, academic, and social demands (McIntyre et al., 2018). Sharp and Theiler (2018) state that psychological distress has been increasingly recognised as a problem among university students worldwide for the past 30 years. In addition, poorer academic outcomes and problematic health behaviours are often linked to students' distress (Sharp & Theiler, 2018). McIntyre et al. (2018) further note that university-related stressors are moderate predictors of depression, and students need to utilise their available resources to alleviate these demands.

1.2 Rationale

1.2.1 The Importance of Resilience and Academic Resilience

Coertjens et al. (2017) discuss the transition from secondary to higher education, highlighting that it marks a significant change in the academic environment for many young people. This often includes adapting to a new institution, and for many students, a new city and the experience of independent living. In addition, students face increased expectations regarding their roles in education, particularly in terms of taking greater responsibility for managing their own studies. Because of this, this shift entails a transformation in what is anticipated from students, including a more self-directed approach to organising their studies regarding content, scheduling and study methods. While international studies like Cliffe and Stallard (2022) show that students commonly struggle with reduced social support when moving into unfamiliar university settings, these findings offer useful points of comparison rather than a direct parallel to the South African experience. Locally, many students encounter similar disruptions, but these are often intensified by structural challenges rooted in historical and socio-economic inequalities. Despite these contextual differences, research consistently shows that the transition into higher education is a critical period that shapes students' resilience across diverse settings. Brewer et al. (2019) and Khumalo et al. (2022) emphasise that students are particularly vulnerable during this initial entry phase, as they

navigate the complex shift from adolescence to adulthood. This makes resilience an essential factor in how they cope with academic and personal demands throughout their university journey.

This transition requires not only academic readiness but also psychosocial preparedness. Furthermore, they note that the challenges encountered during this period can affect students' well-being, persistence, and academic performance. Therefore, they stress the importance of enhancing resilience to support students during this critical phase in higher education.

Explanations of resilience have historically privileged studies from minority-world contexts, leading to a lack of attention to resilience processes in specific majority-world contexts and their cultural and contextual positioning (Theron & Liebenberg, 2015). This underscores the need for context-specific research, grounded in the cultural and contextual roots of resilience among its youth. In a country where there are continuous transitions, such as South Africa, it is crucial to consider the historical influences and its subsequent impact on a student's transition to tertiary education. Brewer et al. (2019), examining resilience in university students, found that resilience was typically described as either a "process or an outcome in relation to positive adaptation" and highlighted how resilience is important for coping and success at university (p. 1115).

Resilience is deeply shaped by broader social and cultural contexts, as highlighted by Hurd and Zimmerman (2016), who emphasize the role of neighbourhoods, schools, community programs, and cultural factors in fostering resilience, particularly among youth at risk of substance use. Their work shows that building resilience can have long-term benefits, including reduced risk of substance abuse, improved mental health, and better academic outcomes. In the South African higher education context, Mapaling et al. (2024) found that institutions continue to face significant challenges, such as high dropout rates and insufficient academic resilience. Their study explored the perceptions of both engineering students and staff regarding academic resilience. They found that while staff often focused on institutional support and structural barriers, students placed greater emphasis on peer networks, self-driven coping strategies, and a sense of belonging as key resilience enablers. These differing perspectives highlight the need for institutions to bridge this gap by aligning support structures with students' lived experiences. Fostering resilience in students—especially those facing multiple risk factors—requires a holistic approach that integrates

individual strengths with supportive environments. In line with Hurd and Zimmerman's (2016) and Mapaling et al.'s (2024) context-specific findings and conclusions, institutions must recognise and cultivate the social and cultural dimensions of resilience to effectively reduce psychological distress, support academic success, and lower dropout rates.

1.2.2 Psychological Distress Among University Students

Psychological distress experienced by university students in South Africa arises from a complicated interaction of academic, social, financial, and cultural influences. Similar to academic resilience, comprehending distress necessitates framing it within the nation's post-apartheid context, where lingering institutional racism and entrenched inequality continue to impact mental health outcomes. South Africa stands as one of the most unequal nations worldwide, with pronounced differences in housing, healthcare, and economic status (Harriman et al., 2022). Evidence consistently demonstrates that Black South Africans encounter higher levels of psychological distress compared to their White and Coloured peers. For example, Young and Campbell (2013) indicated that Black university students reported greater distress levels than White students in both South Africa and the UK, linking this disparity to the lasting impacts of apartheid-era injustices. Harriman et al. (2022), in their analysis of South African National Health and Nutrition Examination Survey (SANHANES-1) data, confirmed this racial imbalance, which remained evident even after adjusting for socioeconomic status, indicating other factors, including racial discrimination.

Black South Africans frequently endure a more substantial cumulative load of ongoing stressors—such as socio-economic inequalities—which largely result from the legacies of apartheid. Harriman et al. (2022) pinpointed these as significant contributors to increased distress. There is also geographic variation: Black individuals in established urban areas report higher distress compared to those living in rural regions, potentially due to feelings of marginalisation and discrimination in historically White urban locals. Universities reflect these larger societal disparities. As noted by Young and Campbell (2013), Black students experience increased psychological distress due to insufficient educational preparation, cultural disconnection within Eurocentric institutions, and informal segregation on campuses. Successful mental health interventions must take these historical and structural influences into account. Harriman et al.

(2022) stress the necessity of tackling stigma, inadequately funded mental health systems, and the long-lasting effects of colonial deprivation. Although tools like the GP-CORE and CORE-OM have received validation in South African samples (Young & Campbell, 2013; Campbell & Young, 2011), their interpretation should remain aware of racial and linguistic issues.

Highlighting the urgent nature of this concern, Bani et al. (2020) reported an increasing prevalence and intensity of psychological distress among undergraduate students. Their research demonstrated that early identification and treatment of distress not only enhances well-being but also bolsters students' ability to meet academic challenges. Despite some advancements at institutional levels, there are still considerable gaps in access to mental health services, the reduction of stigma, and the fostering of supportive campus environments (Bani et al., 2020). A growing body of research indicates a consistent negative correlation between academic resilience and psychological distress, placing resilience as an essential protective factor. For instance, accounting students with higher resilience exhibited notably lower levels of distress (Smith & Emerson, 2021), a similar trend was found among medical and psychology students, even though their overall distress is greater relative to their counterparts in the general population (Bacchi & Licinio, 2016). Longitudinal studies reinforce these results, revealing that assessments of emotional and bounce-back resilience conducted in the earlier terms predict lower distress and enhanced well-being in the long run (Bore et al., 2016; Ríos-Risquez et al., 2018).

Recent studies in South Africa highlight the importance of demographic factors in understanding academic resilience and psychological well-being. Mapaling (2024) explores the demographic backgrounds of engineering students and the factors influencing their resilience, while Sifunda et al. (2024) examine how age, gender, year of study, and type of institution correlate with psychological distress during external stressors like the COVID-19 pandemic—factors that likely impact students' resilience and mental health. Sifunda et al. (2024) also found that academic year significantly influenced distress levels. While first-year students (aged 18–24) experienced high distress (67.7%), likely due to the transition from high school to higher education, students in their third and fourth years faced even greater distress, driven by anxieties about completing their studies, graduation, and employment. Together, these findings underscore the role of resilience in buffering psychological distress in higher education and highlight the need for demographically informed, context-sensitive strategies to support student well-being.

Lastly, Psychological distress among university students may stem from stress and mental health challenges. Research shows that South African university students experience notably high rates of common mental disorders (CMDs) (Bantjes et al., 2019; Bantjes et al., 2023b). For instance, a study of first-year students found lifetime and 12-month CMD prevalence rates of 38.5% and 31.5%, respectively—both higher than in the general population (Bantjes et al., 2019). A national survey across 17 universities revealed high 30-day prevalence rates, with anxiety disorders (37.1%) and disruptive behaviour disorders (38.7%) more common than mood disorders (16.3%) or substance use disorders (6.6%) (Bantjes et al., 2023a). The most commonly reported conditions include major depressive disorder (MDD), generalized anxiety disorder (GAD), social anxiety disorder (24.5%), and post-traumatic stress disorder (PTSD) (21.0%) (Bantjes et al., 2019; Bantjes et al., 2023b). Suicidal ideation is also a significant concern, with a national study reporting a 30-day prevalence of 24.4%, far higher than in the general population (Bantjes et al., 2023a).

1.2.3 Identified Gaps

Internationally, resilience has gained substantial attention, with scholars and policymakers increasingly advocating for resilience-building initiatives. For instance, the UK has seen growing interest in embedding resilience programmes within national curricula (Tudor & Spray, 2017), and institutions such as Wellington College and Stanford University have established dedicated resilience projects (Beale, 2020). These examples illustrate the global momentum behind understanding and strengthening resilience in educational settings.

However, South African research reflects a different landscape. Van Rensburg et al.'s (2015) systematic review shows that local studies conceptualise resilience inconsistently and have yet to reach consensus on the mechanisms that support it across diverse youth populations. Contextual factors—such as poverty, violence, and unequal access to education—are not uniformly accounted for, leaving significant gaps in how resilience develops within South Africa's unique socio-historical environment. The review further highlights the scarcity of validated tools and contextually grounded models, as well as methodological limitations that hamper deeper insights into resilience processes. These gaps extend to academic resilience specifically. Wills and Hofmeyer (2021) note that only a handful of South African studies have examined the construct

over the past two decades, signalling limited empirical attention despite its relevance for student success.

In parallel, research on university stressors shows that students experience a wide range of demands—financial, academic, social, emotional, and institutional (McIntyre et al., 2018; Mason, 2017). While these stressors have been well documented internationally, local evidence demonstrates that South African students experience psychological distress differently. Campbell and Young (2011), for example, found higher variability in distress linked to factors such as race, sex, and language when comparing Rhodes University students with their UK counterparts. This underscores the need for context-specific research that reflects the realities of South African students rather than relying solely on international models. Findings from South African studies consistently show that psychological distress among university students is shaped by broader structural and historical inequalities that continue to affect resilience. Using the GP-CORE, Young and Campbell (2013) found that white South African undergraduates displayed distress levels similar to UK students, whereas black South African students reported significantly higher levels. The authors link this disparity directly to the enduring effects of apartheid-era inequality, which continues to influence access to resources, financial stability, and community support—all factors that weaken resilience and heighten vulnerability to distress. Notably, when black students were excluded from the comparison, the overall difference between South African and UK students disappeared, underscoring the role of structural inequalities rather than individual deficits.

These inequities appear within local samples as well. Black students and non-native English speakers consistently reported higher distress, exceeding clinical cut-off thresholds at greater rates than their white and native English-speaking peers (Campbell & Young, 2011). The most pronounced difficulties emerged in subjective well-being and life functioning—domains closely tied to environmental stressors and cultural-linguistic barriers. Campbell and Young (2016) further emphasise that language and culture shape how students understand, express, and cope with distress, which in turn affects their resilience and help-seeking behaviours.

The COVID-19 pandemic added another layer of strain, exacerbating existing inequalities and intensifying academic, financial, and social pressures—particularly for students aged 19–24. In sub-Saharan Africa, where university students already face systemic challenges, the pandemic

amplified disruptions to learning and reduced access to support systems, increasing psychological distress and weakening resilience. Julius et al. (2024) argue that the pandemic exposed the lack of targeted mental health policies in the region's higher education institutions and highlighted the need for contextually grounded frameworks that address both crisis-related and ongoing structural burdens.

Collectively, these findings illustrate that resilience and psychological distress among South African students cannot be understood without accounting for historical inequality, cultural-linguistic diversity, and the lasting impacts of the pandemic. Strengthening academic resilience thus requires not only individual-level interventions but also institutional policies and mental health supports that respond to these contextual realities.

1.3 Theoretical Framework

The Bronfenbrenner's ecological systems theory provides a useful lens for understanding how students' academic resilience and psychological distress develop within multiple, interacting layers of influence. Rather than offering a descriptive overview of the model, the present study applies the theory analytically to explain how different environmental systems shape students' capacity to cope with academic demands, access support, and manage stress while navigating university life.

At the microsystem level, students' closest relationships—such as those with family, peers, and lecturers—directly influence both resilience and distress. Supportive microsystems may strengthen academic resilience by providing emotional reassurance, academic encouragement, and a sense of belonging, whereas strained or absent microsystem relationships may heighten psychological distress. In this study, the microsystem helps interpret why students with similar academic pressures may differ significantly in their ARS-30 resilience scores or CORE-OM distress levels.

The mesosystem, which captures the interactions among students' microsystems (for example, how family pressures intersect with university expectations), provides insight into how students navigate competing demands. A student may benefit from strong peer support yet still

struggle if family circumstances undermine their engagement in academic life. Thus, the mesosystem helps explain patterns where protective factors in one domain fail to buffer distress because of strain in another.

The exosystem highlights contextual influences that students do not directly participate in but that nonetheless affect their well-being. Factors such as financial aid policies, caregiver employment stability, or community-level stressors (e.g., neighbourhood safety, transport limitations) create background pressures that may erode students' emotional and cognitive capacity to cope academically. Within this study, the exosystem provides a basis for interpreting how financial strain and systemic inequalities indirectly contribute to variations in academic resilience and psychological distress.

The macrosystem is especially salient in the South African context, where cultural norms, historical inequalities, and socio-political structures shape students' access to resources and inform their coping strategies. Cultural values influence how distress is expressed and managed, while historical inequities contribute to unequal educational opportunities that may affect both resilience and psychological vulnerability. Drawing on Theron and Liebenberg (2015) and van Breda (2019), the macrosystem helps explain why students from different linguistic, racial, or cultural backgrounds may display distinct resilience profiles or differing thresholds of distress.

Finally, the chronosystem enables the study to account for change over time, including the transition into university, the effects of the COVID-19 pandemic, and shifts in family or economic circumstances. These temporal factors highlight resilience as a dynamic and developmental process. The chronosystem, for instance, helps contextualise periods of heightened distress—such as first-year adjustment—and may illuminate why resilience fluctuates throughout a student's academic journey.

In summary, the application of ecological systems theory positions academic resilience and psychological distress as outcomes shaped by multiple, interacting ecological forces rather than isolated individual characteristics. This theoretical framing directly informs the study's aims by

providing a holistic basis for interpreting patterns observed in ARS-30 and CORE-OM scores and grounding the findings within the wider socio-cultural realities of South African higher education.

Furthermore, within this study, the ecological framework guides the interpretation of differences across academic years. Academic year functions as a chronosystem variable, capturing the developmental transitions and evolving demands students experience over time. As students' progress through university, changes in microsystem relationships (e.g., peer and lecturer interactions), mesosystem linkages (e.g., shifting family–university dynamics), and exosystem pressures (e.g., financial stress) may differentially influence their academic resilience and psychological distress. Thus, the framework helps explain not only the relationship between resilience and distress but also why these constructs may vary significantly across academic years—directly addressing the study's research questions.

2. Methodology

This section outlines the methodology used to address the study's research questions, including the research design, study population, sampling procedure, data collection instruments, data analysis, and ethical considerations. Each subsection details how these components were implemented to ensure the study's reliability, validity, and ethical integrity.

2.1 Research Questions

The focus of the study was to explore the relationship between academic resilience and psychological distress. The following research questions were investigated:

1. What is the nature of the relationship between Academic Resilience (AR) and psychological distress?

Hypotheses:

- H_0: There is no correlation between AR and psychological distress of students ($p > 0$).
- H_1: There is a negative correlation between AR and psychological distress of the student ($p < 0$).

2. Are there any significant differences between student's academic resilience among students across different years of study?

Hypotheses:

- H_0: There is no significant correlation between AR and academic year of study ($p = 0$).
- H_1: There is a significant correlation between AR and academic year of study ($p \neq 0$).

3. Is there any significant difference between students' psychological distress and the academic year of study?

Hypotheses:

- H_0: There is no significant difference between the academic year of study and psychological distress. ($p \geq 0.5$)
- H_1: There is a significant difference between the academic year of study and psychological distress. ($p < 0.5$).

2.2 Research Design

The study employed a cross-sectional, quantitative, correlational design within a post-positivist paradigm to examine the relationship between academic resilience and psychological distress among undergraduate students. The primary aim was to quantify the prevalence and correlation of these constructs while exploring how participants' socio-demographic characteristics relate to their responses. A correlational analysis was conducted to investigate the association between academic resilience and psychological distress, and descriptive statistics were used to summarise demographic data. The study included a sample of 46 undergraduate students, allowing for the examination of differences across academic years and other relevant demographic variables. This design facilitated both the prediction and explanation of potential relationships between the two key constructs.

2.3 Population

The target population for this study comprised undergraduate students at Rhodes University, South Africa, a context where historical socio-economic inequalities, poverty, and other systemic challenges may influence students' mental well-being. To account for these contextual factors, demographic information was collected, including financial status (self-funded or bursary/scholarship recipients), which could shape students' experiences of academic resilience and psychological distress. According to Rhodes University's Digest Statistics (2023), the undergraduate population numbered 6,336 students, with the Humanities faculty being the largest and most represented group in the study. A total of 46 undergraduate students participated in the study, providing a focused sample for examining the relationships between academic resilience, psychological distress, and socio-demographic variables.

2.3.1 Sampling Procedure

The sampling Permission to distribute the survey was obtained from the Registrar's Office, with students who had opted out of communications excluded. The Student Affairs Director facilitated access to the Student Counselling Centre for participants who might experience psychological distress during the study. After receiving approval from the Dean of the faculty, the survey link on Google Forms was distributed to the undergraduate student population via support@ru.ac.za.

Data collection remained open for three months, during which participants voluntarily completed the demographic questionnaire, ARS-30, and CORE-OM. This study employed a non-probability, convenience sampling approach, relying on students who were readily accessible and willing to participate. While convenient, this method is subject to potential self-selection bias and may not fully represent the broader undergraduate population (Golzar et al., 2022). Ultimately, 46 undergraduate students completed the survey, forming the final study sample.

2.4 Data Collection

In this study, Academic resilience and psychological distress were measured using self-report inventories, administered via an online platform. **Academic resilience** was assessed with the ARS-30 (www.ARS-30.com), and **psychological distress** was measured using the CORE-OM (www.coreims.co.uk). A demographic questionnaire was also included to capture participants' contextual characteristics.

The questionnaires were compiled into a Google Form, and the survey link was distributed to all undergraduate students. Participation was voluntary, and only students who provided informed consent could complete the survey, ensuring confidentiality and anonymity. Responses were anonymised, exported to Excel, cleaned, and prepared for analysis in Jamovi statistical software.

Descriptive statistics summarised demographic information and scores from the ARS-30 and CORE-OM. The primary analysis examined the relationship between academic resilience and psychological distress using Pearson's correlation coefficient, with effect sizes interpreted according to Bujang (2024): small ($r = 0.1–0.2$), moderate ($r = 0.3–0.5$), and large ($r \geq 0.6$).

Correlations below 0.3 were considered weak, and results were evaluated for adequate statistical power given the small sample.

Despite following planned procedures, the study obtained a final sample of 46 undergraduate students, considerably lower than anticipated. This small sample introduces potential bias, limits statistical power, and restricts generalisability. Low response rates are common in online surveys, particularly among student populations due to digital fatigue. Nonetheless, the study proceeded to allow demonstration of methodological and analytical competencies within the research context.

2.4.1 Instruments

Participants were invited to complete an online questionnaire administered via Google Forms. The survey consisted of three components: a demographic questionnaire, the Academic Resilience Scale (ARS-30), and the Clinical Outcomes in Routine Evaluation–Outcome Measure (CORE-OM), which assessed psychological distress. The link to the survey was distributed via email, and responses were collected over three months. Although the survey was sent to all undergraduate students, the final sample comprised 46 participants, reflecting a substantially lower response rate than anticipated. This small sample size has important implications for the study, particularly regarding statistical power, representativeness, and the generalisability of findings. Nonetheless, the dataset was sufficient for conducting the planned descriptive and correlational analyses and provided valuable insight into methodological processes and data-handling procedures.

2.4.1.1 Demographic Questionnaire. In this study, a brief demographic questionnaire was used to gather contextual information about participants. The variables included age, academic year of study, whether the student was repeating the academic year, faculty, whether the current degree program was their first choice (and if not, their preferred degree), financial arrangements (self-funded or otherwise), and place of residence (on-campus or off-campus).
These items were selected for their relevance to the study's focus on academic resilience and psychological distress.

2.4.2.2 The Academic Resilience Scale (ARS-30). The ARS-30 is a 30-item self-report inventory that measures cognitive-affective and behavioural responses to academic adversity

(Cassidy, 2016). Students are asked how they would respond to a hypothetical stressful event within the academic context (Cassidy, 2016). The scale has 30 questions and a tick box response on a five-point Likert scale which ranged from 1 (*strongly agree*) to 5 (*strongly disagree*), once they have been exposed to (i.e., had read) a short vignette. The vignette was constructed to portray an example of academic adversity, representing significant academic challenges and struggle. For example:

> *You have received your mark for a recent assignment, and it is a 'fail.' The marks for two other recent assignments were also poorer than you would want as you are aiming to get as good a degree as you can because you have clear career goals in mind and don't want to disappoint your family. The feedback from the tutor for the assignment is quite critical, including reference to 'lack of understanding' and 'poor writing and expression,' but it also includes ways that the work could be improved. Similar comments were made by the tutors who marked your other two assignments.*

The global ARS-30 score represents the summation of responses to the 30 individual items, with a higher global score (theoretical range 30–150) reflecting greater academic resilience. The ARS-30 has good internal consistency with a Cronbach's α of 0.90 (Cassidy, 2016). The use of the ARS-30 measure, which is based on adaptive responses, aligns more closely with the conceptualisation of resilience and provides a valid measure of academic resilience relevant to research and practice for university student populations (Cassidy, 2016). Furthermore, the ARS-30 Scale is a context-specific measure therefore making it an academically accessible tool to be used across cultures (Cassidy, 2016).

2.4.2.2.1 Scoring Protocol and Interpretation. In this initial phase, specific items within the questionnaire underwent reverse scoring to ensure that higher scores consistently reflect lower levels of the characteristic being measured. The items that required this adjustment included items 2, 4, 8, 9, 10, 11, 13, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27, 29 and 30. The scoring transformation converts an item score of 5 to a score of 1 and an item score of 4 to 2 etc. A score of 3 remains unchanged. After completing the reverse scoring, the scores were summed. This total score is essential as it provides an overall measure of the traits the assessment is designed to evaluate. Each participant's comprehensive score reflects their answers across both positive and negative worded items. In the final step, the assessment culminates the factor scores, which

categorise the overall scores into distinct dimensions or domains. These domains or factors include:

- Factor 1(Perseverance) - This factor is evaluated using 14 items, and the total score can range from a minimum of 14 to a maximum of 70.
- Factor 2 (Reflecting and adaptive help-seeking) - Comprising 9 items, this factor has a scoring range from 9 to 45.
- Factor 3 (Negative affect and emotional response)- This factor is assessed through 7 items, with scores ranging from 5 to 35.
- For each factor, the factor score represents the summation of responses to the individual items loading highest on that factor, with higher scores reflecting more adaptive responses for each factor.

These detailed steps in the scoring process, along with the interpretations of key factor scores, provide a clearer understanding of participant responses and the overall distribution of scores. This structured approach not only enables a comprehensive analysis of each factor but also highlights the most prevalent scores for participants, allowing for valuable insights into their characteristics.

2.4.2.3 Clinical Outcome in Routine Evaluation – Outcome Measure (CORE-OM). The CORE-OM is a 34-item self-report questionnaire, which measures psychological distress (Barkham et al., 2006). The measure evaluates gross psychological distress across four domains: subjective well-being, problems or symptoms, life functioning and risk (Campbell & Young, 2011). The test-taker rates themselves to the given statements considering how well they have been feeling over the past week. Responses are on a five-point Likert scale ranging from 0-4 (0 = *not at all*; 4 = *most or all of the time*), with higher scores indicating higher distress. Within the CORE-OM, reverse items refer to a subset of questions where a higher numerical response indicates a lower level of distress or problem severity, which required reverse scoring.

2.4.2.3.1 Scoring Protocol and Interpretation. Since each item is scored from 0 to 4, the total score ranged from 0 to 136. The total score is an absolute sum and depends on the number of items answered. The mean CORE-OM score is the average of the individual item scores (total score divided by the number of items answered). The mean score was normalized to account for

variations in the number of items answered. Based on the CORE system user manual, below are the scoring details for the CORE outcome measure (Barkham et al., 2006).Total Score and Total Mean Score :

- Each of the 34 items in the CORE outcome measure is scored on a 5-point scale, ranging from 0 (*not at all*) to 4 (*most or all of the time*).
- The total score is calculated by adding the response values of all 34 items.
- The minimum possible total score is 0, while the maximum score is 136.
- The total mean score is calculated by dividing the total score by the number of completed item responses (typically 34).
- If up to three items are missing, the mean score can still be calculated for the remaining items by dividing the total score by the actual number of responses. However, the manual recommends against re-scaling if more than three items are missing.
- This measure is problem-scored, meaning that a higher score reflects greater problems and/or distress. This scoring approach applies consistently across all dimensions, including subjective well-being, where a higher score indicates that the respondent perceives themselves as struggling to cope.

The CORE outcome measure consists of four dimensions. The number of items and score ranges for each dimension are as follows:

- Subjective Well-being (W): 4 items, Total Score Range 0-16
- Problems or Symptoms (P):12 items, Total Score Range 0-48
- Functioning (F): 12 items, Total Score Range 0-48
- Risk (R):6 items, Total Score Range 0-24

To calculate a dimension score, the scores of the items belonging to that dimension are summed. If one item within a dimension is omitted, the score should be divided by the number of completed items. A higher score usually indicates more severe problems or more significant distress, while a lower score indicates less distress or fewer issues or “healthy”. Further interpretation indicated by Table 1. The scores can be interpreted using the total CORE-OM score or the mean scores

obtained using the Excel Sheet which can be accessed from their website. The following scoring protocol for CORE-OM can be used:

- Healthy (1-20): Minimal psychological distress; typical of a non-distressed population without mental health concerns.
- Low level of distress: (21-33): Some distress related to everyday challenges or temporary situations, within the general population range.
- Mild distress (34-50): Noticeable psychological discomfort, an early signal of a trend towards mental health concerns.
- Moderate distress (51-67): Emerging psychological distress
- Moderate to severe distress (69-84): noticeable distress that is likely to be interfering with daily functioning.
- Severe distress (85+): Significant distress impacting several life domains, substantially impacting well-being and daily functioning.

Table 1

Clinical Cut-Off Scores by Gender on CORE-OM (Barkham et al., 2006).

	Clinical cutoff scores (Male)	Clinical cut-off scores (Female)
Total mean score	10	10
Subjective Well-Being	13.7	17.7
Problems / Symptoms	14.4	16.2
Life Functioning	12.9	13
Risk	4.3	3.1
TOTAL - R	13.6	15

Further, the CORE-OM has an acceptable Cronbach's α of 0.75 (Campbell & Young, 2011). Campbell and Young (2011) explored the validity of the instrument in the South African student

population and found that the instrument demonstrated good transportability within a South African context as a tool for measuring overall psychological distress and a range of sores on the subscales.

2.5 Data analysis

Data were exported from Google Forms, cleaned in Excel, and imported into Jamovi for analysis. Descriptive statistics (means, standard deviations, and frequencies) were computed to summarise demographic characteristics and the distribution of ARS-30 and CORE-OM scores. Internal consistency for both scales was assessed using Cronbach's alpha within the sample of 46 participants.

Before conducting inferential analyses, statistical assumptions were tested. The Shapiro–Wilk test was used to assess normality of ARS-30 and CORE-OM total scores, given the small sample size, and Levene's test was applied to evaluate homogeneity of variances across academic year groups.

To address the first research question—the relationship between academic resilience and psychological distress—Pearson's correlation coefficient was used. This test was selected because both variables are continuous, and normality checks indicated sufficient approximation to support a parametric correlation. Effect sizes were interpreted using Bujang's (2024) guidelines.

To examine potential differences in academic resilience and psychological distress across academic year levels (Research Questions 2 and 3), Welch's ANOVA was applied. This approach was chosen specifically because homogeneity of variance was violated, making the standard ANOVA inappropriate. When data violated both normality and variance assumptions, the Kruskal–Wallis test was used as a non-parametric alternative suitable for small and unevenly distributed groups.

A Wilcoxon signed-rank test was additionally conducted as a non-parametric robustness check. Although traditionally used for matched pairs, it was employed here due to the small sample size and non-normal CORE-OM distribution, allowing comparison of results across parametric and non-parametric methods to strengthen confidence in the findings.

All statistical analyses and visualisations (such as scatterplots and bar graphs) were produced using Jamovi's built-in modules. Analytical decisions were guided by diagnostic checks and sample size considerations to ensure the most appropriate tests were applied.

2.6 Ethics

Ethical Considerations: Ethical approval for this study was granted by the Rhodes University Human Research Ethics Committee (RU-HREC) under approval number 2024-7546-8321.

Informed Consent: Informed consent was obtained electronically at the start of the survey via a Google Form. Participants were required to read the study information and check a consent box confirming their agreement to participate before accessing the questionnaire. This ensured that participants were fully aware of the study's purpose, procedures, and their rights. Only those who provided consent completed the survey, ensuring voluntary and ethically sound participation.

Voluntary Participation: Participation was entirely voluntary. Students were invited via email after opting in to receive research-related communications from the Registrar's Office. Participants had the freedom to decline or withdraw at any point without consequence.

Confidentiality and Anonymity: All responses were submitted anonymously, and no identifying information was collected. Confidentiality was maintained throughout, with no link between participants' identities and their responses.

Data Security and Participant Rights: Survey data were encrypted and stored in password-protected files on a secure Google Drive, with access restricted to the researcher. Data will not be reused beyond the scope of this study and will be retained securely for five years before permanent deletion. Participants were provided with information about crisis and student counselling services and could contact the researcher for referral if any distress arose.

Supporting Documentation**:** Permission letters, consent forms, and study information sheets were submitted as appendices with the proposal.

3. Results

This section presents the results of the study in relation to the three research questions that guided the investigation. Specifically, the study aimed to: (1) examining the correlation between academic resilience and psychological distress; (2) explore potential differences in academic resilience across academic year levels, and (3) assess whether psychological distress varies by academic year. The following subsections provide a detailed overview of the results corresponding to each research question, including relevant statistical analyses and interpretations.

3.1 Study Sample

The final sample consisted of 46 undergraduate students, representing approximately 0.73% of the total undergraduate population at Rhodes University (6,336 in 2023). While this small sample size limits the generalizability of the findings, it also introduces several potential issues. Specifically, the limited sample size may have affected the normality of the data, potentially skewing the results. Additionally, the sample's representativeness may be compromised, as it may not fully reflect the diversity of the broader student population. The small sample size could also lead to a truncated range, which reduces the variability of the data and may limit the ability to detect significant effects. Despite these limitations, the sample provided a manageable and diverse group from which meaningful insights could be.

The demographic data is summarized as follows: Age: The majority of respondents (76.1%, $n = 35$) were between the ages of 18 and 24. A smaller number of participants fell into older age brackets: 25–29 (10.9%), 30–35 (8.7%), and 35+ (4.34%). Faculty Distribution: The Humanities faculty was the most represented, with 22 students (47.8%), which is consistent with university statistics indicating that Humanities comprises 44% of enrolled students. Other represented faculties included Commerce (21.7%), Pharmacy (15.2%), Science (10.9%), and Law (2.2%). Although some students identified as being from the Health Sciences (2.2%), it is important to note that Health Sciences is not officially recognized as a faculty at Rhodes University. Financial Status**:** The sample was relatively balanced in terms of funding, with 25 students (54.3%) self-funding their studies and 21 (45.7%) receiving bursaries or scholarships. Residence: There was an equal distribution of students living on-campus (50%) and off-campus (50%). Academic Year: The sample included students across various academic years, with the

highest representation from first-year and second-year students, just over half of the respondents (56%). Notably, five participants (10.9%) reported having repeated an academic year. These demographic patterns, along with further details presented in Tables 3.1 and 3.2, help contextualise the findings while also highlighting the sample's limitations in terms of size and representativeness.

Table 3.1

Summary of respondents Demographics

Faculty	Number of students per faculty	Self-funded Students	Bursary/ Scholarship Students	Repeating Academic Year (YES)	On campus Students	Off campus students	Age Group (18-24 years)	Age group 25-29 years	Age 30-35 years	Age 35+
Commerce	10(21.7%)	7(15.2%)	3(6.5%)	2(4.3%)	6(13.0%)	4(8.7%)	7(15.2%)	2(4.3%)	1(2.2%)	0
Humanities	22(47.8%)	12(26.1%)	10(21.7%)	2(4.3%)	10(21.7%)	12(26.1%)	19(41.3%)	0	1(2.2%)	2(4.3%)
Law	1(2.2)	1(2.2%)	0	0	0	1(2.2%)	1(2.2%)	0	0	0
Science	5(10.9%)	1(2.2%)	4(8.7%)	1(2.2%)	2(4.3%)	3(6.5%)	2(4.3%)	2(4.3%)	1(2.2%)	0
Pharmacy	7(15.2%)	3 (6.5%)	4(8.7%)	0	4(8.7%)	3(6.5%)	5(10.9%)	1(2.2%)	1(2.2%)	0
Health Sci.	1(2.2%)	1 (2.2%)	0	0	1(2.2%)	0	1(2.2%)	0	0	0
Total	46(100)	25(54.3%)	21(45.7%)	5(10.7%)	23(50%)	23(50%)	35(76.1%)	5(10.9%)	4(8.7%)	2(4.34%)

Table 3.2

Summaries of the respondents Frequencies of Academic year of study:

Academic year of study:	**Counts**	**% Of Total**
Fourth year	12	26.1 %
Third year	8	17.4 %
Second year	13	28.3 %
First year	13	28.3 %

Summaries of the respondents Frequencies of Academic year of study:

Academic year of study:	Counts	% Of Total

3.2 Correlation Between Academic Resilience and Psychological Distress

The aim of this study was to determine the relationship between academic resilience and psychological distress. In exploring the nature of the relationship, the ARS-30 and CORE-OM responses were analysed through making use of Pearson correlational Analysis and Welch's One way ANOVA analyses. These analyses aimed to quantify the prevalence and correlation of students' psychological distress and academic resilience and to compare the socio-demographic data (specifically academic year) with their responses on the measures. The following inventories domains/subscales were used to explore the relationship: Life Functioning (F), Problems or Symptoms (P), Subjective Well-Being (W), Perseverance (Factor 1), Reflective and Adaptive Help-Seeking (Factor 2), and Negative Affect and Emotional Response (Factor 3). The normative data are presented as means and standard deviations for both the subscales and the total scale scores.

3.2.1 Research Question 1: What is the nature of the relationship between academic resilience and psychological distress?

Before performing statistical analyses, assumption checks were carried out to confirm the validity of the analyses. Descriptive analysis was conducted to examine the distribution of COREOM scores among participants The Shapiro-Wilk test was applied to check for normality. The data from the CORE-OM showed a normal distribution (p = .16) indicated in Table 3.3. However, the data from the ARS showed an assumption of normality was violated as indicated by the ShapiroWilk test, W = 0.88, p < .001. The results illustrate the distribution of ARS scores significantly deviates from normality (Table 3.4) as there were outliers - indicated in the Q-Q plot in Figure 2.2. The plot shows the ARS scores, that while some points follow the diagonal line closely, there are noticeable deviations, especially at the lower and upper ends. This supports the Shapiro-Wilk result, confirming that the data is not normally distributed**.** In light of this violation, non-parametric tests were considered appropriate for further analysis. To further explore potential

differences between ARS and CORE-OM scores a paired test was conduct, and given that the non-normality of ARS-Scores a Wilcoxon signed-ranked test was performed.

Prior to the analysis of the correlation, Table 3.3 below highlights the interpretation of the mean score for descriptive statistics from the CORE-OM DOMAINS, this interpretation follows the Clinical Cut-Off Scores by Gender represented on Table 1 above.

Table 3.3

Descriptive Statistics for CORE-OM Domains

Domain	***N***	**Mean**	**Mode**	**Standard Deviation**	**Minimum**	**Maximum**
Life Functioning	46	20.2	26	9.11	1.00	36.00
Problems and symptoms	46	18.2	15	10.2	0.00	37.00
Subjective Well-being	46	7.20	7	3.28	1.00	14.00
Risk	46	2.11	0	3.52	0.00	13.00

The interpretation of the mean score for descriptive statistics from Table 5 is as follows:

- Life functioning domain consists of respondents' perceptions about their general or/and close relationships in which they may be experiencing discomfort. Within this domain, the clinical cut-off scores were 12.9 (for males) and 13 (for females) as indicated in Table 1 (Barham et al., 2006). Based on Table 5, the mean score was 20.2. This may indicate that most of the participants deemed themselves to be experiencing distress within their overall relationships and potentially encountering or contending with significant life dysfunction.
- In the problems and symptoms domain, the clinical cut-off was 14.4 (for males) and 16.2 (for females) (Barkham et al., 2006). For this domain, the mean was 18.2 which is above the clinical cut-off for, these results imply that irrespective of the gender, the respondents reported significant levels of depression, anxiety or trauma symptoms.
- In the subjective well-being domain, the clinical thresholds were set at 13.7 (for males) and 17.7 (for females) (Barkham et al., 2006). For the respondents sample their mean score was below the two cut-offs' irrespective of gender difference as well. Revealing that the respondents viewed themselves coping well with distress.

Furthermore, the overall CORE-OM score dataset, consisting of 46 values ($N = 46$), was analyzed. The mean score was $M = 49$, which falls within the range indicative of mild psychological distress (34–50). This outcome may indicate that, on average, respondents were experiencing noticeable psychological discomfort, potentially signalling early signs of mental health concerns. The dataset included notable outliers, with scores ranging from a minimum of 8—indicating that some respondents perceived themselves as psychologically healthy or experiencing low distress—to a maximum of 98, reflecting severe distress. One particularly high outlier was a score of 90. Despite these extremes, the distribution of scores was nearly symmetric, as illustrated in Figure 1.

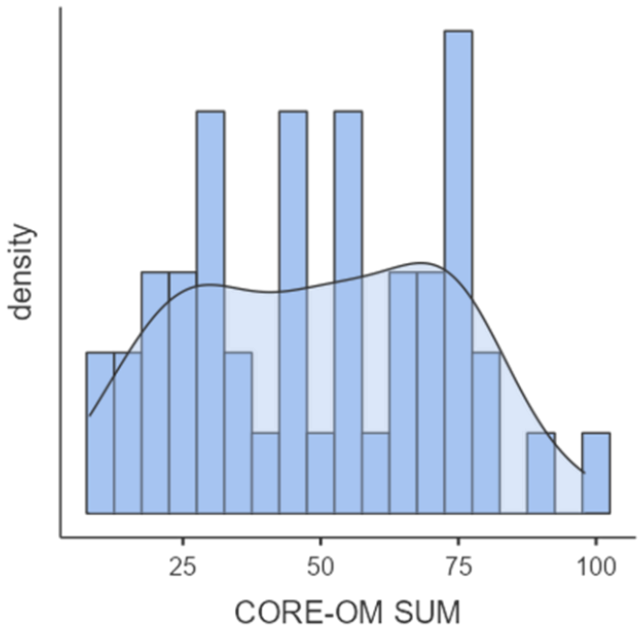

Figure 1

The CORE-OM SUM Plot

Descriptive analysis was conducted to examine the distribution of Academic Resilience Scale (ARS-30) scores among participants. The ARS scores in this sample ($N = 46$) ranged from 48 to 140, with a mean score of $M = 116.00$, indicating generally high levels of academic resilience. According to Cassidy (2016), the theoretical range of the ARS-30 is 30 to 150, with higher scores reflecting greater resilience in academic settings. Visual inspection of the histogram (Figure 2.1)

below point to a positively skewed distribution, with the majority of scores clustering above 100. Notably, 5 participants (11.1%) scored below 95, with individual scores of 48, 80, 86, 92, and 93, indicating comparatively lower levels of academic resilience within this subsample.

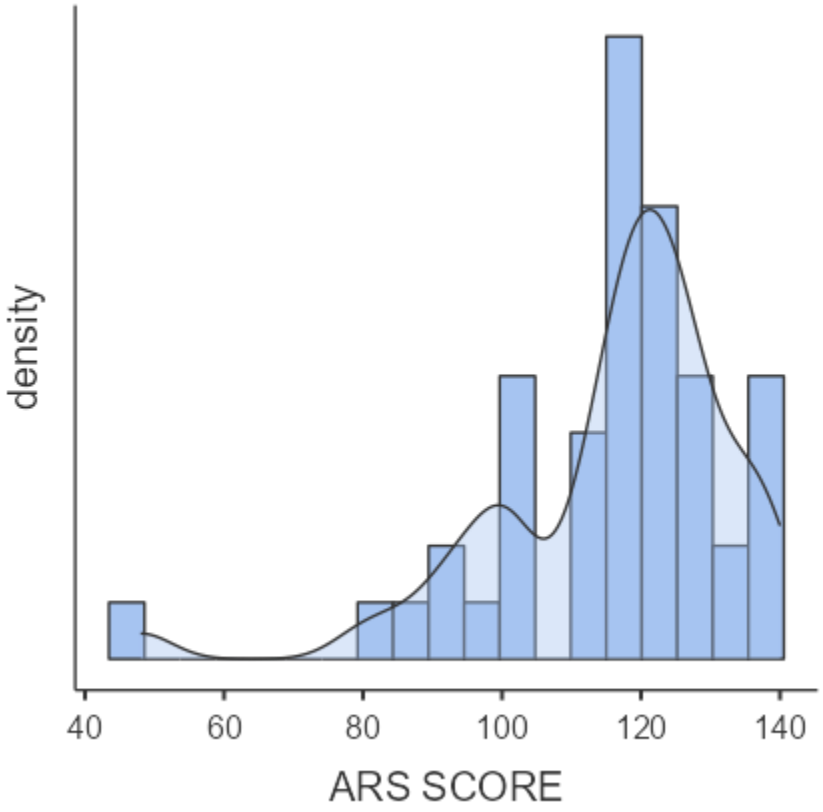

Figure 2.1

The ARS-30 scores Distribution

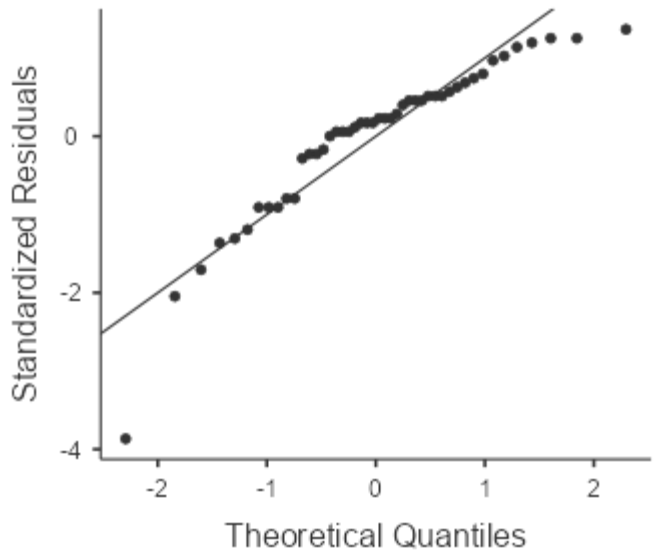

Figure 2.2

The Q-Q Plot of the ARS Scores

The Q-Q plot (Figure 2.2.) above shows clear deviations from the diagonal line, particularly in the tails, further supporting the violation of normality illustrated in table 3.4 below. Additionally, the histogram (Figure 2.1) demonstrated a slightly skewed distribution with a few low-end outliers.

The tables below present the Shapiro-Wilk Test for Normality test (table 3.4) and the paired Sample T-test for the ARS Scores and CORE -OM Scores using the – Wilcoxon Rank test in Table 3.5 below.

Table 3.4

Shapiro-Wilk Test for Normality (ARS SCORE AND CORE-OM SCORES)

Test	**W**	***p***
ARS SCORE - CORE-OM SUM	0.98	.55

Table 3.5

Paired Samples T-Test and Wilcoxon signed-rank test for ARS SCORE AND CORE-OM SCORES

Paired Samples T-Test		Statistic	*p*
ARS & CORE-OM SUM	Student's t	13.9	.001
	Wilcoxon W	1077	.001

3.2.1.1 H_1: The Higher the Psychological Distress, the Lower the AR of the Student ($p < 0$). It was hypothesised that there would be a negative correlation between academic resilience and psychological distress ($p < .05$). Before conducting inferential statistical analyses, assumption checks were performed to ensure the validity of the procedures

Assumption Checks and Descriptive Analysis: Descriptive statistics were used to examine the distribution of CORE-OM scores among participants. The Shapiro-Wilk test was conducted to assess the normality of the data. Results indicated that CORE-OM scores were normally distributed, W = 0.979, p = .552. In contrast, the ARS-30 scores violated the assumption of normality, $W = 0.88$, $p < .001$. A Q-Q plot (Figure 2.2) visually confirmed the deviation, with noticeable departures from the diagonal line at both the lower and upper extremes, indicating the presence of outliers. Given the non-normal distribution of ARS-30 scores, both parametric and non-parametric tests were employed to assess the relationship between academic resilience and psychological distress.

Correlation Analysis: A Pearson correlation revealed a weak, negative association between ARS-30 and CORE-OM scores, $r = -.233$, $p = .119$. Although this result was not statistically significant, the direction of the relationship aligns with prior research implying that higher

academic resilience may be associated with lower psychological distress (Cassidy, 2016). The limited statistical power due to the small sample size, along with the complex, multifaceted nature of resilience, may explain the lack of significance (Wills & Hofmeyr, 2021).

The non-significance may be attributed to limited statistical power due to the small sample size, as well as the complex and multidimensional nature of resilience (Wills & Hofmeyr, 2021).

Paired Samples Analysis: To further explore potential differences in the distributions of academic resilience and psychological distress scores, both a paired-samples t-test and a Wilcoxon signed-rank test were conducted. The paired-samples t-test revealed a statistically significant difference between ARS and CORE-OM scores, $t = 13.9$, $p <$. 001. Similarly, the Wilcoxon signed-rank test, used as a non-parametric alternative, confirmed this result: $W = 1077$, $p < .001$.

A weak negative correlation was found between academic resilience and psychological distress ($r = –.233$, $p = .119$), but this was not statistically significant; thus, the null hypothesis is not rejected. However, significant differences in score distributions ($t = 13.9$, $p < .001$; $W = 1077$, $p < .001$) indicate that these constructs function in opposing but fundamentally distinct ways. Although not strongly correlated, the patterns point that high resilience may be associated with lower distress, warranting further investigation with a larger sample. These findings also imply that enhancing academic resilience could be a promising approach to addressing mental health challenges, and potential inequalities in educational settings.

Figure 3
Scatterplot illustrating the relationship between academic resilience and psychological distress

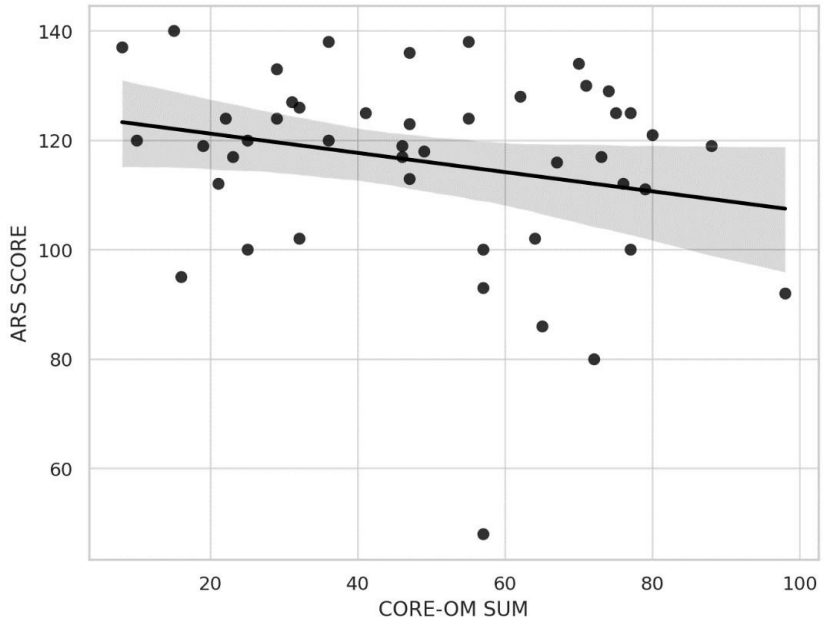

Figure 3

Scatterplot illustrating the relationship between Academic resilience and psychological distress

3.2.2 Research Question 2: Are There any significant difference between Students' AR (ARS30) and Academic Year of Study?

Prior to conducting inferential analysis, descriptive analysis, assumptions of normality and homogeneity of variances were assessed. The Shapiro–Wilk test indicated a violation of the assumption of normality for ARS-30 scores, W = 0.89, $p < .001$, reflecting that the data set were not normally distributed (Table 6). The levene's test for homogeneity of variances was non-significant, F= 0.57, p = .64, indicating that the assumption of equal variances across groups was met. Given the violation of normality, a one-way ANOVA was not appropriate. Therefore, a non-parametric alternative—the Kruskal-Wallis H test—was conducted to assess whether academic resilience differed across academic years. The result was non-significant, $\chi^2 = 0.82$, p = .844, imply that academic year does not have a statistically significant effect on students' academic resilience. By using non-parametric tests, the analysis accounted for the skewness in the data, ensuring that the results were not unduly influenced by the violation of normality.

Table 3.6 below presents the descriptive statistics of ARS-30 scores across academic years.

Table 3.6

Descriptive Statistics for ARS-30 scores by Academic Year of Study

Academic year	N	M	*SD*	SE
First	13	116.31	16.10	4.48
Second	13	117.69	22.70	6.29
Third	8	113.00	19.40	6.84
Fourth	12	116.00	13.00	3.77
Total	46	115.98	-	-

Descriptive statistics indicated that mean ARS-30 scores were similar across academic years. Fourth-year students (N = 12) had M = 116 (SD = 13.0); third-year students (N = 8) had M = 113 (SD = 19.4); second-year students (N = 13) had M = 118 (SD = 22.7); and first-year students (N = 13) had M = 116 (SD = 16.1). The range of means was narrow (113–118), with second-year highest and third year lowest. Standard errors were SE = 3.77, 6.84, 6.29, and 4.48 for fourth- through first year, respectively, reflecting group size and variability. These descriptive results are illustrated in Table 3.4 Above.

Variability differed by the years. Second-year students had the greatest variance (SD = 22.7) and third-year students the next greatest (SD = 19.4), whereas fourth-year students had the least variance (SD = 13.0); first-year variance was intermediate (SD = 16.1). This pattern is echoed in the standard errors (larger for second/third years, smaller for fourth/first years). Overall, the error bars in Table 8 overlap substantially, indicating that any differences in mean Academic Resilience across years are small relative to within-year variability. In sum, academic resilience scores were broadly similar across year levels, with no clear increasing or decreasing trend from first through fourth year.

Table 3.7 below represents the assumption checks for One-way ANOVA on the ARS-30 score.

Table 3.7

Assumption Checks for One-Way ANOVA on ARS-30 scores

Test	**Statistic (W, F)**	***p***	**Interpretation**
Shapiro-Wilk Normality Test	0.89	< .001	Indicates a violation of the normality assumption

The Shapiro-Wilk test indicated a violation of the assumption of normality for ARS-30 scores ($W = 0.89$, $p <. 001$).

Table 3.8

Homogenity of variance Test (Levene's) ARS-30 scores by Academic Year of Study

Measure	**F**	***p***
ARS Score	0.57	0.64

Table 3.9 below indicates the non-parametric test run and results are presented below.

Table 3.9

Kruskal-Wallis One-Way ANOVA (Non-parametric) ARS-30 scores by Academic Year of Study

Kruskal-Wallis	x_2	***p***
ARS Score	0.82	.84

The assumption of normality was assessed using the Shapiro–Wilk test, which showed a significant deviation in ARS-30 scores ($W = 0.89, p < .001$). Due to this violation, a one-way ANOVA was not appropriate. Instead, the Kruskal-Wallis H test was used and yielded a nonsignificant result ($\chi^2 = 0.82, p = .844$), indicating no statistically significant difference in academic resilience across academic years.

In conclusion, descriptive statistics showed similar ARS-30 means across year levels (113–118) with overlapping error bars and no clear trend. H_1 was not supported. We fail to reject H_0: academic year does not significantly affect academic resilience ($p = .84$).

3.2.3 Research Question 3: Is there any significant difference Between the Student's Psychological Distress (CORE-OM) and their Academic Year of Study?

Prior to conducting inferential analysis, descriptive analysis (Table 3.10), assumptions of normality and homogeneity of variances were assessed for research question 3. Table 3.11 below represent the homogeneity of variance test

Table 3.10

Descriptive Statistics of Psychological Distress (CORE-OM Sum) by Academic Year

Academic Year	**N**	**M**	***SD***	**SE**
First	13	56.31	20.9	5.80
Second	13	46.00	26.3	7.28
Third	8	52.50	28.7	10.16
Fourth	12	44.30	19.0	5.50

Descriptive statistics for the psychological distress scores by academic year are presented in Table 3.10 above, despite no significant differences found across academic years, the group means show some variability, with first-year students ($M = 56.3$) having the highest average psychological distress and third-year students ($M = 52.5$) having the highest standard deviation.

The homogeneity of variance test (Levene's) in table 3.11 is presented below. The levene's output for CORE-OM Score are presented below.

Table 3.11

Homogenity of Variance Test (Levene's)

Test	**Statistic (W, F)**	***p***	**Interpretation**
CORE-OM	1.20	0.322	Indicates a violation of the normality assumption

The assumption check was run and the results are indicated below in table 3.12 below, However, the lack of significance in the ANOVA imply that psychological does not significantly predict variations in psychological distress in this sample. The assumption of normality was satisfied indicated in Table 3.11 as the Shapiro-Wilk test provided a *p*-value of .08. This reflects that the data in each group follow an approximately normal distribution trend.

Table 3.12

Assumption Checks for One-Way ANOVA on CORE-OM scores

Test	**Statistic (W, F)**	***p***	**Interpretation**
Shapiro-Wilk Normality Test	0.96	< 0.08	Indicates a violation of the normality assumption

Table 3.13

Welch's One-Way ANOVA Results for CORE-OM scores by Academic Year of Study

Measure	**F**	***P***
CORE-OM Score	0.82	.49

A Welch's One-Way Analysis of Variance (ANOVA) was conducted to determine whether there were significant differences in psychological distress (measured by the CORE-OM sum) across students in different academic years, indicated in Table 3.13 below. The results the *p*-value of .49 is much greater than .05, which means we fail to reject the null hypothesis.

In conclusion, descriptive statistics showed some variability in CORE-OM scores across years, with first-year students reporting the highest mean psychological distress (*M = 56.31*) and third-year students the highest variability (*SD = 28.7*).

The Shapiro–Wilk test indicated no significant violation of normality (*W = 0.96, p = 0.08*), and Levene's test confirmed homogeneity of variances (*F = 1.20, p = 0.32*). Given these conditions, Welch's ANOVA was used and found no significant difference in psychological distress across academic years (*F = 0.82, p = .49*).H_1 was not supported. We fail to reject H_0: academic year does not significantly influence students' psychological distress (*p = .49*).

4. Discussion

This chapter discusses the findings in relation to the study's central aim: to examine the relationship between psychological distress and academic resilience among undergraduate students at Rhodes University. Guided by Bronfenbrenner's Ecological Systems Theory, the discussion explores how students' experiences of psychological distress are shaped by—and in turn influence—various contextual factors operating across multiple ecological levels. These include personal demographics (e.g., age and academic year), academic environments (e.g., faculty affiliation), and broader social conditions (e.g., financial support and residential status). Particular attention is given to academic year, which emerges as a key demographic variable in understanding variations in both psychological distress and academic resilience.

Through this ecological lens, the chapter interprets how interconnected systems—from the immediate (microsystem) to the broader societal and temporal contexts (macrosystem and chronosystem)—collectively shape the dynamic relationship between psychological wellbeing and academic outcomes. Additionally, the discussion critically reflects on how the demographic composition of the sample both enriches and constrains the generalizability of the findings.

4.1 Descriptive Statistics

Bronfenbrenner's Ecological Systems Theory offers a useful framework for understanding how psychological distress impacts academic resilience through nested environmental systems. At the microsystem level, immediate environments such as residence
(with a 50/50 split between on- and off-campus living) and academic setting shape students' daily academic experiences. The mesosystem highlights how personal characteristics—like age, academic year, and history of academic repetition (10.9%)—interact with institutional and social supports. Academic year is particularly important in answering the research question, as it directly relates to students' exposure to academic stressors and institutional demands across different stages of their undergraduate journey.

The exosystem, reflecting influences outside the students' direct control, is evident in the financial aid distribution: 54.3% of students were self-funded, while 45.7% relied on bursaries or

scholarships. Supporting this, Rhodes University (2024) reports that 3,522 of the 8,156 students registered for 2024—approximately 43.2%—were funded by the National Student Financial Aid Scheme (NSFAS).

This is especially relevant in the Humanities faculty, the most represented group in the sample (47.8%, or 22 students), which often attracts students from socioeconomically diverse backgrounds. At the macrosystem level—encompassing broader cultural and structural influences in higher education—the prominence of Humanities aligns with both Rhodes University statistics and national enrolment patterns. Notably, 76.1% of this study's respondents fall within the 18–24 age range. This proportion reflects national trends, where the majority of undergraduates also fall within this age group (South African Department of Higher Education and Training, 2019), highlighting a concentration of younger students. Furthermore, the Humanities faculty remains the largest among the respondents in this study.

Finally, the chronosystem accounts for developmental timing and transitions, shown in the age spread of participants (including older students up to 35+), indicates varied life-stage experiences that may affect resilience. Though the sample (n = 46, ~0.73% of the Rhodes undergraduate population) is limited in size, it reflects key demographic and academic patterns. These include the concentration of younger students in the Humanities, a balanced financial aid distribution, and the presence of students across all academic years—factors that together situate psychological distress and academic resilience within a broader ecological context.

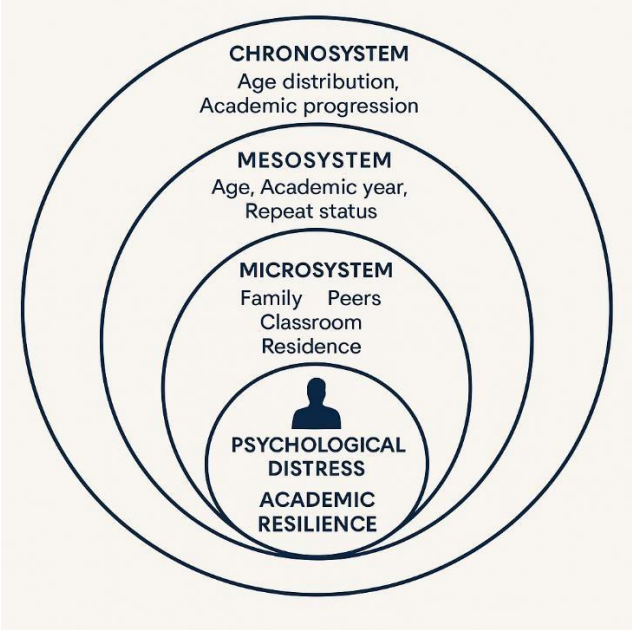

Figure 4

An adapted Bronfenbrenner's Model

4.2 Comparison Findings

4.2.1 Relationship Between Academic Resilience and Psychological Distress

This study explored the relationship between academic resilience and psychological distress, and examined differences in resilience and distress across academic years. A weak negative correlation was found between ARS-30 and CORE-OM scores ($r = –.233$, $p = .119$), imply that higher resilience may be associated with lower psychological distress. However, the relationship was not statistically significant, likely due to a limited sample size and the complex nature of resilience (Cassidy, 2016; Wills & Hofmeyr, 2021). Notably, significant differences in score distributions ($t = 13.9$, $p < .001$; $W = 1077$, $p < .001$) confirm that the two constructs are distinct but inversely related.

Descriptive analysis revealed that first-year students reported the highest mean distress levels, while third-year students showed the greatest variability. Although differences across academic years were not statistically significant (Welch's ANOVA: $F = 0.82$, $p = .49$), these

patterns highlight how transitional and academic stressors may vary by year. Similarly, no significant differences were found in academic resilience across years (Kruskal–Wallis: $\chi^2 = 0.82$, $p = .844$), despite second-year students reporting the highest mean ARS-30 scores. These outcomes may indicate that resilience remain relatively stable, and potentially shaped more by personal and contextual factors than academic progression alone.

Domain-level analysis of the CORE-OM indicated elevated symptoms of psychological distress—particularly anxiety, depression, and interpersonal difficulties—among students in earlier years. Although overall self-harm scores were below clinical concern, the mean score ($M = 2.11$) raises concerns about underreported non-suicidal self-injury, consistent with previous research (Van der Walt, 2016; Cliffe & Stallard, 2022). Framed within Bronfenbrenner's (1979) ecological systems theory, these findings underscore that both resilience and distress are influenced by dynamic interactions across microsystemic (e.g., peer support), mesosystemic (e.g., academic environment), exosystemic (e.g., access to mental health services), and macrosystemic levels (e.g., societal pressures). The stability of resilience across years may reflect shared institutional stressors or common external challenges. As van Rensburg et al. (2015) argue, models of resilience in South Africa must account for unique cultural and historical contexts, which are often overlooked in imported frameworks.

In conclusion, while no statistically significant effects were found, the trends reflects that enhancing academic resilience may be a valuable strategy for mitigating psychological distress. Universities should implement culturally responsive, multi-level mental health interventions that support students across all years of study, addressing both individual coping capacities and systemic sources of stress.

4.2.2 Academic Resilience and Academic Year of Study

Prior to analysis, assumptions for parametric testing were evaluated. The Shapiro–Wilk test indicated a significant deviation from normality in ARS-30 scores ($W = 0.89$, $p < .001$), though Levene's test showed equal variances across groups ($F = 0.57$, $p = .64$). Due to the violation of

normality, the Kruskal–Wallis H test was used and found no significant differences in academic resilience by year of study ($\chi^2 = 0.82$, $p = .844$). Descriptive statistics showed similar mean scores across year levels (113–118), with no clear trend.

Thus, H_1 was not supported; we fail to reject H_0, indicating academic year does not significantly affect academic resilience. While second-year students reported the highest average scores and third years the lowest, these differences were not statistically meaningful. This finding imply that academic resilience may remain relatively stable over time and may be more strongly influenced by individual factors, external support systems, and context, rather than academic seniority alone.

This divergence may stem from that resilience develops and strengthens over time through repeated adaptation and experience (Beale & Konstantinou, 2023; Julius et al., 2024). Rather, they support theoretical frameworks that conceptualize resilience as dynamic and context-dependent, varying according to environmental and relational influences.
Bronfenbrenner's (1979) ecological systems theory reinforces this view, highlighting how resilience is shaped by interactions across systems—from personal relationships and institutional environments to broader sociocultural dynamics. Taken together, these insights highlight the need for comprehensive, multi-level strategies to support academic resilience. Rather than assuming resilience develops naturally through academic progression, institutions should adopt proactive and inclusive interventions that address the diverse and changing needs of students throughout their university journey.

4.2.3 Psychological Distress and the Academic Year of Study

The third research question explored whether psychological distress levels differed across academic years. Descriptive statistics showed some variability in CORE-OM scores, with firstyear students reporting the highest mean psychological distress ($M = 56.31$, $SD = 14.29$), likely reflecting the challenges of transitioning into university life. Third-year students demonstrated the highest variability in distress ($SD = 16.21$), which may be attributed to pressures related to academic performance and career preparation. Second- and fourth-year students reported relatively lower distress, possibly indicating the development of more effective coping mechanisms over time.

The Shapiro–Wilk test indicated no significant violation of normality ($W = 0.96$, $p = .08$), and Levene's test confirmed the homogeneity of variances ($F = 1.20$, $p = .322$). Given these conditions, Welch's ANOVA was employed to account for potential differences in group sizes and variance. The analysis revealed no statistically significant differences in psychological distress across academic years ($F = 0.82$, $p = .49$).

Despite the non-significant findings, descriptive trends reflect those developmental differences in distress levels. Framed within Bronfenbrenner's Ecological Systems Theory, academic year reflects mesosystemic influences, interacting with micro-, exo-, macro-, and chronosystemic factors. These include peer and academic pressures, institutional support, societal expectations, and events such as the COVID-19 pandemic. As Sifunda et al. (2024) note, age, gender, and institutional context further shape student well-being. Consistent with prior research (Cliffe & Stallard, 2022; Wills & Hofmeyr, 2021), these findings highlight the need for holistic, context-sensitive mental health support across all academic levels.

5. Conclusion

5.1 Study Limitations

This This study has several limitations that affect the interpretation and generalizability of the results. First, the small sample size (n = 46) substantially limits statistical power and reduces representativeness relative to the broader Rhodes University undergraduate population (N ≈ 6,235). The low response rate also raises the possibility of self-selection bias, as students who chose to participate may differ from non-respondents in terms of academic resilience or awareness of mental health concerns. This undermines the extent to which the findings can be generalised to all undergraduates.

Second, the study relied solely on self-report questionnaires, which increases the likelihood of social desirability bias, particularly in sensitive domains such as psychological distress. Similar to patterns reported by Bantjes et al. (2023c) regarding underreporting of suicide-related distress, students in the present study may have minimised or concealed certain experiences due to stigma. Administering multiple instruments within a single survey may also have introduced fatigue or carryover effects, potentially influencing response accuracy.

Third, although the ARS-30 and CORE-OM are widely used and internationally validated, they may not fully capture culturally embedded experiences of resilience or distress within the South African higher education context. This limitation is consistent with concerns raised by Van Rensburg et al. (2021) regarding the cultural sensitivity of resilience measures. In addition, the ARS-30 does not provide cut-off scores, which constrains the precision with which levels of academic resilience can be interpreted in this study.

While Bronfenbrenner's (1979) ecological systems theory offered a useful framework for situating student experiences within multiple environmental systems, it does not sufficiently account for internal psychological processes or context-specific cultural dynamics that may shape coping, distress, or help-seeking (Rosa & Tudge, 2013). Other relevant factors known to influence resilience—such as language barriers, academic transition challenges, and family responsibilities (Mapaling et al., 2024)—were not included in the analysis, further restricting the explanatory depth of the study's findings.

Finally, the cross-sectional design prevents causal inference and limits the ability to examine how resilience and psychological distress might fluctuate over time. Longitudinal research, culturally adapted instruments, and broader demographic representation are recommended for future studies to provide a more comprehensive understanding of academic resilience among South African university students.

5.2 Summary and Conclusion

This study provides a nuanced understanding of the relationship between academic resilience and psychological distress among undergraduate students. While the hypothesized negative correlation between psychological distress and academic resilience was found in the expected direction, it was not statistically significant. The lack of a significant relationship may be attributed to the small sample size, which reduced the statistical power of the analysis. Additionally, a truncated range in the data could have contributed to the limited ability to detect a significant effect, as the variability in scores was constrained, further restricting the potential to identify stronger associations. Future research with a larger, more diverse sample is recommended to better explore this link.

Furthermore, the findings demonstrates that academic resilience does not significantly differ across academic years, In contrast to earlier studies that imply that resilience increases with academic experience. This stability in resilience levels could reflect shared environmental stressors across all academic years, such as institutional demands and academic workload, which do not vary substantially over time. Psychological distress, too, did not vary significantly by academic year, although first-year students experienced the highest levels of distress, likely due to adjustment difficulties. These results underline the need for holistic mental health support that addresses the diverse and evolving needs of students, regardless of their academic year.

5.3 Recommendations for Future Research

The study indicates that respondents particularly in their first year, arrive at university with existing psychological distress, highlighting the need for early intervention. Tailored support during the transition into university life can ease emotional challenges and foster healthier adaptation. Although this study did not investigate psychological distress over a long period of

time, across academic years, the high levels reported among first-year students underscores a need for longitudinal research to examine how distress evolves over time. Interventions should go beyond academic year considerations and address broader contextual factors—such as personal traits, socio-economic background, and institutional support—to ensure more holistic mental health strategies.

Future research should use larger, more diverse samples and explore the roles of emotional well-being, academic pressure, and support systems in shaping both distress and resilience. Including qualitative methods can deepen insight into students' lived experiences, while open-ended gender categories can help capture the diversity of identity and its impact on well-being. Data collected through online self-report tools (ARS-30 and CORE-OM) and a demographic questionnaire. Future studies should aim to reduce bias, improve participation, and strengthen the generalizability of findings.

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